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TITLE : ZIRCONIA SINTERED BODY EXCELLENT IN DURABILITY AND MANUFACTURING METHOD THEREOF

ABSTRACT : PROBLEM TO BE SOLVED: To provide a durable zirconia sintered body not only excellent in thermal stability and mechanical property at 200-300°C but exhibiting excellent wear resistance and durability and stably through a long term even in warm water at about $\geq 60^{\circ}\text{C}$ or a high humidity atmosphere and the manufacturing method.

SOLUTION: The zirconia sintered body excellent in durability is a $\text{ZrO}_2\text{-Y}_2\text{O}_3$ based zirconia sintered body (a) having the crystal phase of ZrO_2 composed mainly of tetragonal zirconia and (b) the molar ratio $\text{Y}_2\text{O}_3/\text{ZrO}_2$ of 1.5/98.5-2.3/97.7, (c) containing 0.01-3.0 wt.% Al_2O_3 and ≤ 0.3 wt.% SiO_2 and (d) having $\leq 0.3 \mu\text{m}$ average crystal grain diameter, $\leq 5\%$ porosity and ≤ 10 vol.% transformation quantity by rupture.

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